

A sighting survey for bobwhite quail (*Colinus virginianus*) broods was conducted for the 25th consecutive year during the summer of 2018. The quail brood survey was again conducted in conjunction with the summer turkey brood survey.

Past survey cooperators and additional potential cooperators were provided with data forms and requested to record sightings of turkeys and quail during the period July 1, 2018 through August 29, 2018. Cooperators included, but were not limited to, SCDNR Conservation Officers and Wildlife Section staff, Natural Resources Conservation Service (NRCS) staff, foresters, and plantation managers.

Several assumptions had to be made in compiling the data due to variations in reporting. These assumptions are: (1) groups of 1-4 birds not identified to sex and age were assumed to be adults, (2) groups of birds of 5 or greater were assumed to be a mated pair of adults with the remainder being juveniles, (3) when a numerical range for number of birds was given, the median was used (Eg: 8-12=10), and (4) if no adult quail were observed with a brood, one adult was assumed present.

Results were compiled from 280 observations of quail during the 2018 survey period (Table 1), down from 302 in 2017. The Southern Coastal Plain region reported the greatest number of quail observations and brood sightings. In addition, the percentage of adults without chicks was lowest in the Southern Coastal Plain (Table 3). Age ratio (juveniles per adult) increased in all regions (Table 2). The Southern Coastal Plain (Table 3) had the highest age ratio of the four regions. Statewide, the age ratio of 3.09 juveniles per adult was higher than the age ratio detected in 201 (0.8). The average brood size (11.5) increased from 7.3 in 2017.

Statewide, forty-nine percent (136/280) of adult quail were observed without chicks, down from sixty-four percent in the 2017 survey (Table 4). Also, the average brood size and the age ratio increased from 2017 (Table 4). Total numbers of adults observed decreased slightly, however, total number of chicks observed increased from the 2017 survey. Collectively, these indices suggest that total reproductive output during the survey period was greater in 2018 than in 2017. It should be noted that while the 2018 survey did indicate higher nesting success than the prior year, the statewide reproduction was also slightly higher than the five year and ten year average.

Figure 1. Physiographic regions used in the South Carolina Summer Bobwhite Quail Brood Survey, 2018. Number of broods sighted is in parentheses.

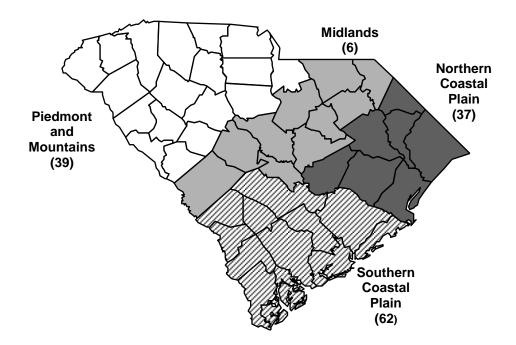


Table 1. Results of the South Carolina Summer Bobwhite Quail Brood Survey by Region, 2018.

Physiographic Region	Observations	Broods Sighted	Chicks	Adults	Total Quail
Piedmont & Mountains	79	39	380	141	521
Midlands	12	6	41	23	64
Northern Coastal Plain	79	37	333	166	499
Southern Coastal Plain	110	62	907	208	1115
2018 Totals	280	144	1661	538	2199

Table 2. Bobwhite quail recruitment data from South Carolina Summer Bobwhite Quail Brood Survey, 2014 – 2018.

			Age Ratio
<u>Region</u>	<u>Year</u>	Average Brood Size	(Juveniles / Adults)
Piedmont & Mountains	2014	8.0	2.10
	2015	7.3	2.20
	2016	8.1	1.70
	2017	7.6	1.10
	2018	9.7	2.70
Midlands	2014	5.9	1.10
	2015	4.9	1.50
	2016	6.4	1.00
	2017	5.7	0.28
	2018	6.8	1.78
Northern Coastal Plain	2014	6.5	1.50
	2015	7.5	2.70
	2016	9.8	3.20
	2017	7.6	0.76
	2018	9.0	2.01
Southern Coastal Plain	2014	7.5	1.30
	2015	6.0	1.60
	2016	8.0	2.20
	2017	8.0	0.95
	2018	14.6	4.36
Statewide	2014	7.2	1.50
	2015	6.3	1.90
	2016	8.1	2.10
	2017	8.4	2.09
	2018	11.5	3.09

Table 3. Summary of reproductive data for 2018 South Carolina Summer Bobwhite Quail Brood Survey by region.

	Adults w/Chicks	Adults w/o Chicks (%)	No. Chicks	Brood F	-
Region				Size	
Piedmont and Mountains Midlands Northern Coastal	39 6 37	40 (51) 6 (50) 42 (53)	380 41 333	9.7 6.8 9.0	2.7 1.8 2.0
Southern Coastal	62	48 (44)	907	14.6	4.4
Statewide	144	136 (49)	1661	11.5	3.1

Table 4. South Carolina Summer Bobwhite Quail Brood Survey reproductive data 2009 - 2018.

	Adults w/Chicks	Adults w/o Chicks (%)		Avg. Brood	•
Year				Size	
2009	274	399 (59)	1,588	8.6	2.3
2010	355	541 (60)	1,695	8.6	1.9
2011	200	428 (68)	1,348	8.0	2.2
2012	195	158 (45)	1,137	9.2	3.2
2013	139	148 (52)	715	7.9	2.5
2014	81	163 (67)	366	7.2	1.5
2015	145	160 (52)	592	6.3	1.9
2016	131	178 (58)	963	8.1	2.1
2017	272	304 (53)	1,204	8.4	2.1
2018	144	136 (49)	1,661	11.5	3.1
10 -Year Average	194	262 (56)	1,127	8.4	2.3